

# Assessing for Differentiation: Getting to Know Students

Dr Tracy Riley  
Massey University  
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Differentiation can only occur when teachers clearly understand individual readiness (strengths and needs), interests, and learning preferences. Getting to know students as individual learners is not only one of the first steps to differentiation, but a continual pitter-patter throughout the process. Educators of gifted and talented students have long advocated for the need to "know where students are at" in their learning via strategies like pre-assessment, multimethod identification procedures, curriculum compacting, diagnostic-prescriptive teaching, interest inventories – the list goes on! To differentiate means to individualise and that can only occur when we as teachers have a clear and complete picture of each student, including those of exceptional ability. Braggett (1994) states that pre-assessment is the "trigger that activates the differentiated curriculum" (p. 71).

So why is pre-assessment so important for gifted and talented students? Firstly, we must remember that "the purpose in differentiation is to match a learning experience to the need(s) of a student or a cluster of students for whom the learning experience is appropriately challenging" (Roberts & Roberts, 2001, p. 228). There must be a "fit" between the student and the content, processes, and products that create learning experiences. Unfortunately, in many cases, there is a mismatch between the readiness, interests, and learning preferences of gifted and talented students and their planned learning experiences.

Tomlinson (1995) reiterates this point in stating "Too often the reality for gifted students is that their needs are not met in the regular classroom. Braggett (1994) reminds us of this when he states "... it is found that gifted students frequently meet the competencies – at least in part – before new work is introduced..." (p. 71). Renzulli and Reis' studies in the United States, related to curriculum compacting, demonstrated that in some cases gifted students had mastered up to 60 percent of the curriculum – at the start of the school year.

While study of this nature within the New Zealand context has not been actively undertaken, when one examines typical behaviours associated with underachievement (that is, boredom, complacency, conformity, and rebellion) as outlined by the Ministry of Education (2000) there is little doubt the clothes of an "un-differentiated" curriculum don't fit Kiwi gifted and talented students.

Cathcart (1994) warns us of the implications associated with gifted and talented students repeating mastered work or working below the right level. These are:

- the creation of confusion and self-doubt for the child;
- the production of high levels of frustration;
- a disillusionment with school, teachers, and authority in general;
- a "turn-off" from learning; and
- an indefensible education (p. 236).

These same implications exist if we don't recognise individual differences related to interests, learning preferences, and cultures. In inclusive classrooms if we don't gauge where our gifted

and talented students are, we fail to meet the goal of valuing and celebrating individual differences.

For differentiation to happen, teachers must systematically gather and utilise information about individual students. Again, this information must relate to all aspects of their learning: readiness, interests, and learning preferences. These will vary from student to student based upon their experiences, culture, age, gender, and family/whānau. Getting to know students means three steps must be undertaken:

1. Determining the appropriateness of pre-assessment methods, and using a variety of those. The methods used should reflect goals and objectives of learning experiences; the nature of the classroom environment; the age, culture, and gender of students; and so on.
2. Using the pre-assessment data to differentiate content, processes, and products – in other words, individual and group learning experiences.
3. Remembering to use pre-assessment data for decision-making for gifted and talented students by actively seeking better-fitting learning experiences.

As stated earlier, pre-assessment is the "trigger" for differentiation. Without it Roberts and Roberts (2001) remind us that "differentiating learning experiences for students will appear capricious, and the teacher will be subject to criticism" (p. 228).

Let's think about an everyday analogy we can probably all relate to. Imagine you are ill and decide to go to the doctor. Before she treats you, you are given the opportunity to describe your symptoms, she checks your medical records, and she examines you. The doctor then diagnoses your condition and subsequently prescribes appropriate treatment, taking as many factors into account as necessary. Teachers who differentiate based upon pre-assessment are, as Tomlinson (1999) states, "diagnosticians, prescribing the best possible instruction for their students" (p. 2). You can't prescribe without diagnosing (nor should your doctor!) – and you can't diagnose without pre-assessment.

So how do we get to know our students? Here are some general principles related to pre-assessment:

- Pre-assessment should begin early in the year, term, or unit of study.
- Pre-assessment should be on-going – not just a first step, but a constant one.
- Pre-assessment should be comprehensive, examining readiness (strengths and needs), interests, and learning preferences.
- Pre-assessment should be appropriate for various cultures, ages, genders, abilities or disabilities, and so on.
- Pre-assessment should directly match the intended learning experiences: content, process, and product.
- Pre-assessment should rely upon a variety of methods – not a singular approach.
- Pre-assessment should take alternative forms (that is, interviews, class discussions, tape recordings, writing, graphic).
- Pre-assessment **MUST** result in appropriate differentiation.

Keeping these in mind, let's look at some strategies for getting to know students better. Tailor these to your classroom and school.

An often overlooked tool for understanding gifted and talented students is the identification process for special programmes. Many times it seems we rely upon identification to label or place gifted and talented students. If that's the case, we are overlooking a treasure trove of vital information. As the Ministry of Education (2000) points out, identification is a "means to an end and not an end in itself" (p. 27). Good identification procedures means data collected is used as the basis of planning learning experiences for gifted and talented students. If students in your classroom have been formally identified as gifted and talented, check their records, revisit your notes, or talk with the specialist teacher. Some schools in New Zealand have rosters or other record-keeping strategies in place – use the information held there as a starter to differentiation.

Pre-assessment may well be nothing more than utilising our usual assessment tools, as planned for the end of a unit of study, but employing them at the start. Teachers can use pre-tests, checklists, quizzes, class discussions, journal entries, portfolios, and the like – all of which demonstrate student understanding of the intended content, processes, and products. For general ideas related to assessment practices, visit <http://www.tki.org.nz/e/assessment/>

Don McAlpine has written several articles on assessment for gifted and talented students that may also be of interest. They can be found at:

- [\(portfolio assessment\)](#)
- [\(authentic assessment\)](#)
- [\(self-assessment\)](#)

Remember – you don't have to re-invent the wheel, just rotate and re-align it.

Roberts and Roberts (2001) recommend several strategies as appropriate for gifted and talented students. The first is called Five Most Difficult First and is also advocated for by Winebrenner (1992). And it's dead easy! A teacher simply asks the five most difficult questions to be answered at the end of a unit or lesson – at the beginning. If a student can answer those, prior to the start, then a differentiated learning experience is warranted. An intermediate school maths teacher in Palmerston North uses this strategy with all of his students and when he told me this, my immediate thought was "Wow! I wish I'd had him as a teacher!"

The second strategy they recommend is allowing students the opportunity to design a mind map, visually sharing information they know and the interrelationships they grasp – before a unit of study is undertaken. By giving students key words, they can share their knowledge, experiences, and interests with a graphic design.

Roberts and Roberts' third technique is a KW Chart. On a KW Chart students detail what they know (K) and what they want to find out (W). The information students give in K can be analysed in relation to core goals and objectives, with their questions in W being used as the basis for differentiated learning experiences. A KW Chart for the topic space, as transcribed from a conversation with a 9-year-old student, can be seen below.

### **My KW Chart**

#### **K... What I Know**

Neil Armstrong was the first person to walk on the moon.  
He was 38 and it was 16 June 1969. He said "One small step

#### **W... What I Want to Know**

How do they build rockets?

for man, one giant leap for mankind." I think his spaceship was Apollo 9 or 10.

Apollo 13 almost didn't make it back to Earth. I like that movie with Tom Hanks in it.

Pluto is the farthest planet – I think.

You can't see the Southern Cross in America.

There are nine planets. And Earth is the 3rd, isn't it?

I love my mum to the moon and back.

There's no gravity on the moon, which is why astronauts bounce and float around.

NASA is the name of the US space programme, but I'm not sure what the letters stand for.

The Russians sent a monkey to the moon before Americans sent humans.

The spaceship, The Impossible, blew up and a teacher died. She was going to teach children lessons from the moon. My mom was learning to be a teacher when it happened and they cancelled her university classes. I think it's very sad.

Is there a Planet X?

What would it be like to live on the moon? Will people ever get to?

Why do some spaceships blow up?

What's the coldest planet? Is it Pluto? How cold is it?

Can you see different stars in different places in the world? And why?

Why did people go to the moon anyway?

Is there a movie about Neil Armstrong? Because if there is, I want to see it. There should be – he's my hero.

Are there volcanoes on the moon? Or are those just craters?

Does New Zealand have a spaceship? Has anyone from New Zealand ever been to the moon?

What does this KW Chart tell us? Here are some bits and pieces worth thinking about in regard to this 9-year-old's ideas:

- He knows some facts about space.
- He makes connections between ideas.
- He is uncertain about some of his ideas and questions their accuracy.
- He has a fairly extensive background knowledge – apparently from movies, books, and home.
- He provides lots of ideas for differentiated learning experiences – some more extensive than others.
- The points made are not just cognitive in nature, but also affective.
- Some of the information he gives is incorrect.
- Some of the questions he poses are more than likely beyond the teacher – and probably any planned objectives for a year 4 class studying space.

Using strategies like those given above give students opportunities to move beyond our expected outcomes. They are open-ended. In a sense, this removes the ceiling – because while a teacher's goal for all student might be to understand the governmental structure of New Zealand, gifted and talented students might well already have that knowledge and now

want to know how it differs from other countries or how it came to be or what might make it better... or, or, or...

So, if we close the task – or lower the ceiling – we get a false image of where students are in their understandings. The same is true of more formal assessments. For example, if I administered a year 6 maths assessment to my undergraduate students, I'd hope they'd score in the 99th to 100th percentile. But it doesn't reflect accurately their ability as students who have mastered mathematics well beyond year 6, does it? It reminds me of a new entrant teacher reporting to me that my son could count to ten. Actually, he could count to infinity – but he'd only been asked to count to ten. Neither of these examples gives a true picture of ability. Off-level – or above-level – assessment and open-ended assessment should be seriously considered for gifted and talented students.

Many of the strategies discussed so far will profile student readiness (strengths and needs), but how do we determine their interests and learning preferences? Tomlinson (1999) recommends that in differentiated classrooms all students are given an opportunity to examine and share their individual differences – early on. The strategies she suggests are:

- Graphing their perceived strengths and weaknesses of skills, understandings and the like.
- Writing autobiographies about themselves as learners.
- Answering questions about positive and negative school experiences, best and worst subjects, or effective and ineffective ways of learning.

Other ideas might be:

- Setting individual learning goals for the year, term, or unit of study.
- Designing a personal shield or other product about themselves as learners.
- Contributing to a class book, All About Us, which rotates from home to home, documenting what they do, who they're with, etc.
- Going on a People Hunt, during which they find classmates who match certain descriptions (like "someone who's read all the Harry Potter books" or "someone who's been outside of New Zealand" or "someone who's been on a marae".)
- Undertaking Buddy Interviews in which students find out interesting facts about a classmate and share those with others in the class.

These are just a few ideas – you'll have many more and we'd encourage you to share those strategies by [emailing us](#).

More formal approaches to understanding interests and learning preferences may also be undertaken. For example, George (1997), Renzulli and Smith (1978), and Heacox (1991) provide learning style inventories. Sternberg and Wagner (1991) have developed a thinking styles inventory. Renzulli (1996) has developed an *Interest-A-Lyzer* for examining present and potential student interests. Winebrenner (1992) also includes an interest survey in her book *Teaching Gifted Kids in the Regular Classroom*. Two additional starter interest inventories are featured below. These are *All About Me* and *What If?* Feel free to amend them to suit your classroom and students.

### **All About Me**

When I have free time at home I like to

My favourite activity at school is

If I could learn more about anything it would be

I like to read about

A famous person I'd like to meet is

When I grow up I'd like to

If I could go on holiday anywhere in the world it would be

My favourite friends are

My hero or heroine is

The most interesting fact I know is

If I could change something about school it would be

### **What If?**

You are an author. What is your best selling book about?

You are a film director. What kind of movies do you make?

You are a coach. What sports team do you coach?

You are a travel agent. Where would you tell people to go on holiday?

You are a principal. What would students do in your school?

You are an artist. What media and subjects do you use?

You are an inventor. What is your most famous invention?

Again – these are just starters. If you ask children to give an explanation for their answers, you'll unearth even more about their individual interests. And if you match these sorts of questions with intended outcomes – well, you'll have more information than you'll know what to "differentiate" with!

I am sure there are many, many other formal approaches to making an inventory of learning preferences and interests. Look around, check the Internet, use what's out there. The key factor is finding out about students' interests and learning preferences. If you have developed or discovered an interest or learning preference inventory, please share it with us by submitting it to our site. [gifted@tki.org.nz](mailto:gifted@tki.org.nz)

Finally, Clark and Callow (1998) remind us of the value in using observation as a technique for better understanding our students. They state that observation gives a "fuller picture of a child beyond tests and statutory assessment procedures... (and) as far as able children are concerned, this fuller picture might ensure that they are not bored or demotivated by what is on offer" (pp. 77–78). Observation provides inside information on what students achieve and how they achieve it. Careful observation gives teachers clues for evaluating and planning – direct feedback on what works and what doesn't work. Clark and Callow take observation a step further, in suggesting that it be partnered with regular discussions with gifted and talented students. As they state, "able students are more capable of such discussion, which can shed light on how they learn and how they learn best" (pp. 78–79).

Determining individual differences in learning is the foundation of differentiation – for all students. Pre-assessment of readiness, interests, and learning preferences is a necessary component of differentiation. But it requires more than just doing it. Action, based upon pre-assessment, is required. As Tomlinson (1999) states "Study the results of this pre-assessment and their implications for you and your students" (p. 97). I've little doubt that the implications for gifted and talented students will be a differentiated learning experience that is characterised by depth and breadth, variety, choice, and complexity in content, processes, and products. A classroom that relies upon pre-assessment will deliver to students an education which fits. And to tailor for individuals is an art. "Teachers in differentiated classrooms are more in touch with their students and approach teaching more as an art than as a mechanical exercise" (Tomlinson, 1999, p. 8).

## **References, recommended readings, and websites**

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